Creating Effective Government/ Contractor Teaming

Teaming Can Be Extremely Rewarding, But First Let's Temper the Cheers by Recounting the Cost

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There is an old story of a wealthy American socialite, Mrs. Frances Whitworth Smith, who decided to sit for the most famous Parisian portrait artist of her day, with the result being a fiftieth anniversary gift to her husband. The artist, Jean-Paul Valjean, steadfastly insisted on adherence to his primary rule ...no patron was to view the commissioned portrait until it was complete.

The commission was agreed upon, and the days melted into weeks as the master toiled. Finally, the greatly anticipated day arrived, on the eve of the Smiths' fiftieth anniversary, and the artist and his patron stood before the draped portrait. With a flourish, Jean-Paul threw back the drape.

Mrs. Smith gasped, her mouth agape, and a crimson blush crept slowly from the base of her neck to the top of her forehead. "Jean-Paul, this portrait does not do me justice!"

Jean-Paul Valjean pointedly looked from the lined fact of Mrs. Smith to the representation on the canvas...once...twice... three times. "Indeed, Madame," he said, "one must choose between mercy and justice!"

Relationships between customers and their contractors can be complex and challenging. The expectations of each can easily be at odds with one another. The goal is, of course, that both parties can reflect upon the finished product with a sense of satisfaction and accomplishment. And "teaming" can be a very effective process to accomplish just that.

Teaming is an approach now well-tried on a number of programs, and the use of teaming can have a significant impact. This article looks at the Joint Standoff Weapon (JSOW) program, currently being led by Navy Capt. Bert Johnston. JSOW is a joint U.S. Navy/U.S. Air Force missile program. Its teams include representatives from both Services, the prime contractor, and key suppliers. What follows is a glimpse of the conditions and factors creating a fruitful government/contractor team, written from the prime contractor's perspective.

An article in *Aviation Week & Space Technology* discussing JSOW teaming commented:

- "Aggressive application of streamlined acquisition practices and an early commitment to teaming are credited with the success of [JSOW] to date."[1]
- According to Navy Capt. J.V. Chenevey, program manager for Conventional Strike Weapons at the Naval Air Systems Command, "...right now, I can't imagine how [teaming] could work much better. It was just a maturation process of the contractor trusting its government counterparts, and the government [people] putting themselves into the team—as opposed to just sitting back and critiquing the contractors..."[2]
- "Texas Instruments, as prime contractor, also brought key suppliers into the program to ensure 'ownership and buy-in' from the outset. Suppliers involved in design processes and cycle-time-reduction efforts include Kearfott Guidance and Navigation (inertial measurement unit); Lucas Aerospace (control actuator system); Aerojet (payload ordnance); Olin Aerospace (dispenser); Eagle Picher (batteries), and HR Textron (wing deployment driver)."[3]

A closer look at certain underlying dynamics creating the successful teaming experience on JSOW follows.

But Just What is "Teaming"?

Shallow as it may appear, a discussion of teaming must begin with a definition. For every 10 "practitioners" of teaming, there apparently are *at least 10* definitions! Different organizational cultures (e.g., contractors, Service

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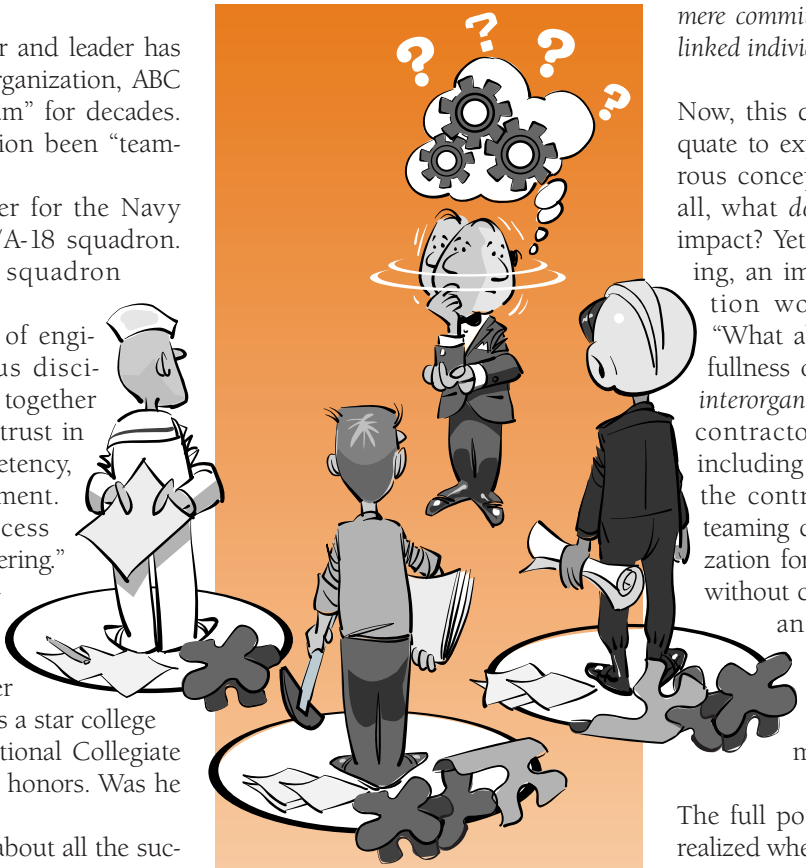
branch), varying experiences of the key participants (e.g., military service, a championship sports team, being consistently picked last for playground teams in elementary school), the desired goals for the organization, the personal motives of any particular participant, and other such factors impact intellectual and emotional understandings of teaming. Also, since the word "team" has had frequent but varied usage, it is difficult to dislodge those uniquely individual conceptions from the minds of team participants or leaders. Consider the following...

- A corporate founder and leader has called her entire organization, ABC Corporation, a "team" for decades. Has ABC Corporation been "teaming"?
- A program manager for the Navy commanded an F/A-18 squadron. Was the ongoing squadron activity "teaming"?
- A seasoned group of engineers from various disciplines has worked together for years, building trust in each other's competency, integrity, and judgment. They call this process "concurrent engineering." Have these engineers been "teaming"?
- A program manager for the Air Force was a star college athlete, earning National Collegiate Athletic Association honors. Was he part of "teaming"?
- An executive reads about all the success derived from teaming. He promptly renames all working committees and work groups within his corporation "teams" and, since they were already functioning well in his opinion, he simply exhorts them to become even better. Is this "teaming"?
- Considered by many to be an excellent primer on popular concepts of teaming, the book *The Wisdom of Teams* says "[a team is] a small number of people with complementary skills who *are equally committed to a common purpose, goals, and working approach for which they hold themselves mutually accountable*" (emphasis the authors').[4] Is that "teaming"?

In the eyes of the beholder, none, any one, or all of these may be "teaming." Even more curiously, two individuals in a particular organization, having experienced firsthand the same set of events in that organization, may disagree as to whether such events comprised "teaming." This is reminiscent of the parable of the five blind men and the elephant where each man felt a different portion of the elephant and reported back, in turn, that an elephant was like a broom, a tree trunk, a wall, a vacuum hose, and a spear.



RELATIONSHIPS BETWEEN CUSTOMERS AND THEIR CONTRACTORS CAN BE COMPLEX AND CHALLENGING. THE EXPECTATIONS OF EACH CAN EASILY BE AT ODDS WITH ONE ANOTHER.

With these caveats, the following definition is offered from the contractor's perspective for JSOW: *"...A team is a group of individuals with shared responsibility/accountability (ownership) for accomplishing a whole segment of work. These individuals as a team have the responsibility/capability for planning, controlling, coordinating, and improving their work segment significantly beyond mere committees, concurrent tasking, or linked individual efforts."*

Now, this definition is surely inadequate to explain a pervasive, omnivorous concept such as teaming. After all, what *doesn't* teaming ultimately impact? Yet, in government contracting, an immediate call for clarification would seem appropriate: "What about the potential for the fullness of teaming in this context, *interorganizational* teaming between contractor and customer, that is, including the customer directly on the contractor's teams? Certainly, teaming can exist within an organization for the sake of the customer without consulting the customer on an intimate, ongoing basis. But the unique circumstance of certain defense contracts could well beg more."

The full potential of teaming may be realized when the *customer* has the cultural profile, opportunity, and wherewithal to become integrally involved in the process. If so, then the "group of individuals" previously referred to would be inclusive of *both* contractor personnel and government personnel.

Now, note that under this working definition (and, really, universally), teaming is not a panacea and therefore not appropriate for all organizations and circumstances. The costs and obstacles are *both* high in a full manifestation of teaming; therefore, there must be an expected payback in benefits.

For example, why "team" when a committee will do? Or, the short-term, relatively simple engineering project, say, may well require only a concurrent tasking of engineers from different disciplines. Yet, while the faddish, very broad "application" of teaming—mindlessly encompassing every organization and every circumstance—will inevitably fade, some long-term applicability of teaming, sometimes with astounding results, seems assured.

Therefore, successful teaming entails—

- an individualized response;
- relating to an appropriate organizational dynamic;
- covering a particular period of time; and
- customized or tailored to the needs of the time and circumstance.

Beware: These observations are specific to the JSOW program at this particular point in time. At the same time, however, it may well be appropriate that certain of these elements may be more universally applied. In short, the JSOW experience may well be useful, but it is by no means definitive to all circumstances.

Conditions Fermenting Teaming

JSOW's ambitious pursuit of teaming gelled at a watershed time for the industry at large. The end of the Cold War—and the implications for the industry—were clear during the infancy of JSOW. Change was afoot! Smaller budgets and adjusted priorities were the order of the day, at least on a macro basis, and those changes would certainly filter on down to individual contracts and contractors.

The late Ken Hinman, then head of the Air Warfare Office in the Office of the Secretary of Defense, was an early advocate of the principles now embodied in the Perry initiatives. Hinman directed that paperwork authorizing JSOW include requirements for both government and contractor to offer evidence the program was being run with "TQM principles." And, there was a growing sense that the customer wanted to be something more than just a "checker."

During this time, the Department of Defense management emphasis was challenging the industry to find new methods. Defense Systems Management College, DoD 5000, and other influences were all shifting the emphasis from engineering design, "full-scale development," to integrated objectives of design *and* manufacture, "engineering and manufacturing development." Teaming, specifically integrated product teams (IPT), seemed to be...and ultimately became in the case of JSOW...a way to bring more voices to the table in response to this challenge.

While these views were being germinated on the customer side, several suppliers for Texas Instruments (TI) noted that TI was an applicant for the Malcolm Baldridge award (TI had not yet won the award at that point), and challenged TI to put shoe leather on the verbiage TI was using about supplier involvement. As this was done, personnel at both TI and its suppliers got an appetite for a forum to collaborate. This was not only effected on the front-end with key suppliers such as Lucas Aerospace and Olin Aerospace, but also worked to sustain notable efficiencies throughout the early years of JSOW.

TI had experienced success, notable success, in the practice of teaming in regard to factory operations, specifically in its Sherman, Texas, and Denison, Texas, facilities. Hank Hayes, then leading TI's Systems Group, became convinced, and directed that teaming should be vigorously implemented in key knowledge-based efforts of the Systems Group.

Retired Navy Capt. Bob Ramsay, was selected to lead PMA-201, the Navy's program office for air-to-surface conventional weapons. This organization included JSOW, and he had his own ideas about teaming. Other programs were having some success with teams, at least in the production phase. But Ramsay brought to the table an unexpected level of passion for teaming and an ardent belief in the necessity for fundamental reform in processes. Early on, he effected this passion with collaborative techniques. For example, he would schedule several meetings at once, in order to force members of the JSOW community to select which one they attended, with the government and contractor representatives then reporting to their peers (not management) regarding the results of such meetings.

Past program experience for the Navy and TI also played a role in the thinking of both. In one particular case, a contract had degraded into a polarized blame game. The subsequent change from "fixed price" to "cost plus" led the Navy to believe that it was indeed possible to be involved in a collaborative approach while fully protecting and maintaining the interests of the government, and without undue contractual complications.

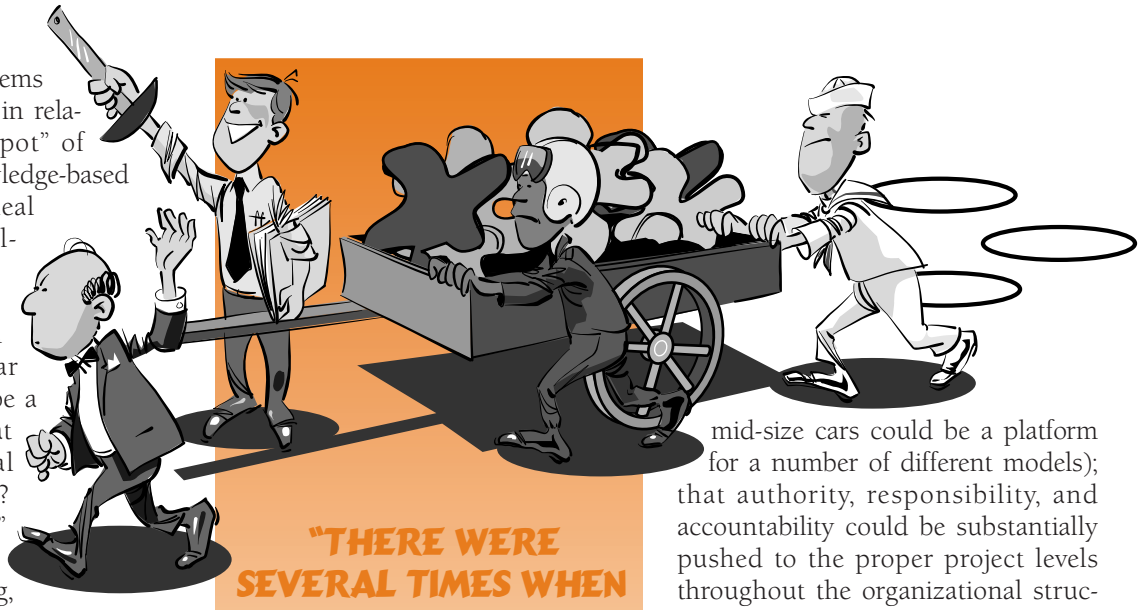
And, neither NAVAIR (Naval Air Systems Command), NAWC (Naval Air Warfare Center—China Lake), nor TI had done a brand new air-to-ground weapon—indeed, one critical to the future of naval aviation—for several years. None of the parties had a complete set of truly experienced staff in that arena...and, in the view of all, a collaborative effort was in order to improve the odds of success.

Making It Happen...How?

TI management on JSOW needed to respond to this milieu of conditions, and several troublesome questions, among many, presented themselves. A representative group of such questions...

- How does one convert factory success in teaming to knowledge-based efforts, clearly a more difficult endeavor, and one not really overtly attempted by TI before?
- Have others in other industries successfully implemented teaming in very complex, knowledge-based processes, *and jointly with their customers*?

- Where does TI Systems Group truly stand in relation to a "sweet spot" of teaming in its knowledge-based endeavors, that ideal organizational balance between a project approach and a functional approach? How far away? Would this be a radical change that the organizational culture would reject?
- Will the "normal" organizational resistance doom teaming, for government and contractor alike? Should vehement resistance be expected? Or would this be akin to poking the slumbering Leviathan with a toothpick?
- What is the framework, the understanding, of teaming that uniformed military personnel tend to bring to the table?
- How would teaming work *beyond* the contractor's organization, into *interorganizational* teaming, with the Navy and Air Force, no less?



"THERE WERE SEVERAL TIMES WHEN ALL BUT ONE OF US (GOVERNMENT AND CONTRACT MANAGERS) WANTED TO STOP. AND THE ONLY REASON WE DIDN'T WAS BECAUSE WE DIDN'T GET UNANIMITY ON THAT."

Doing The Homework

Research was called for...and much discussion, including a certain amount of self-examination and soul-searching. A notable portion of research into the topic revealed shallow, rah-rah understandings of teaming. However, certain documents and understandings were very helpful to TI's view of JSOW at the time and place...

Others using knowledge-based engineering environments appeared to have done it! Specifically, the first several pages of Chapter 5 of *The Machine That Changed The World*,[5] a book which details significant changes in the automobile industry, were illuminating. These selected pages dealt with the differences between General Motors and Honda in their developing new automobile models in the 1980s.

According to the authors, General Motors tried to simply "coordinate" across models for efficiencies and to honor the various functional areas (read "let the functional areas retain all power and decision making"). The result was frustration at the project level and significantly deteriorated deadlines and accomplishments of the company's stated goals. Honda, on the other hand, totally empowered the key persons appointed to lead its *project*, with the critical authority to pull key personnel from the functional areas to *make things happen*. Accordingly, deadlines were met, with the result that the Honda Accord leapt to the status of the best-selling model in the United States, even though the start date for the Honda project was *years* after that of General Motors.

This seemed to suggest several key points simultaneously: that a knowledge-based company could successfully place a multiple-model "platform"...similar conceptually to the JSOW "platform"...into a project level (e.g., a basic engineering design for mid-size cars could be a platform for a number of different models); that authority, responsibility, and accountability could be substantially pushed to the proper project levels throughout the organizational structure without necessarily retaining authority, responsibility, and accountability primarily at the functional level (e.g., "engineering," "software development"); and perhaps most importantly, that "winning" and "losing" status in the marketplace was directly impacted by the decision to team, and to team properly.

TI Systems Group reviewed its practices, evaluating itself and others in the industry in relation to a linear spectrum ranging from "project orientation" to "functional areas orientation." TI believed that the "sweet spot" of effective teaming lay not at either end of the linear spectrum, but somewhere more near the "project orientation" end, with cognizance of functional areas. TI Systems Group then concluded it was not far from the "sweet spot." Years of trust building, professional relationships, and concurrent engineering within the Systems Group lent themselves to teaming, even if teaming wasn't really practiced. The price would still be high in organizational change, but the belief was that it might well be doable, and worth it!

TI management on JSOW also concluded that there are three dimensions of teaming complexity, facets which impede easy implementation of teaming: degree of team diversity, degree of repetition, and degree of abstraction. For example, it is "easier" to team on a process which requires only one skill

or two, is repetitive, and is concrete—witness a simple factory process. Complex defense contracts tend to be "easy" in none of the three dimensions. However, "platform" thinking... like a JSOW design lending itself to derivative designs and contracts...while facing complexity in all three dimensions, could have tremendous payoffs not only in an initial contract production phase, but in subsequent derivative contracts. And, this benefit could accrue not just to the contractor, but *to the customer*. Teaming for JSOW was looking better all the time, even with the expected organizational resistance!

A number of other works and programs were considered over time in the research process. The breadth and profile of the research were very helpful in formulating understandings of teaming. This list includes the F-22 program, Team Comanche, research by Jon R. Katzenbach and Douglas K. Smith in the March-April 1993 issue of *Harvard Business Review*,[6] a JSOW corrective action team directed to improve TI's own processes, SDIO activities, the GE-414 engine program, the TI concurrent engineering curriculum, Chrysler's development teams, and World War II attempts by various countries to develop the atomic bomb, as described in McGeorge Bundy's book *Danger and Survival*.[7] Although these efforts were considered to be successful to one degree or another, failed efforts were reviewed as well.

One article in particular became key in the homework process. "The Self-Designing High-Reliability Organization: Aircraft Carrier Flight Operations at Sea" had appeared in the Autumn 1987 issue of the *Naval War College Review*.[8] Two quotes from the article represent dimensions of the article critical to thinking about the JSOW process.

> Recent studies of large, formal organizations that perform complex, inherently hazardous, and highly technical tasks under conditions of tight coupling and severe time pressure have generally concluded that most will fail spectacularly at some point ...Yet, there is a small group of organizations in American society that appears to succeed under trying circumstances, performing daily a number of highly complex technical tasks in which they cannot afford to 'fail'...Of all activities studied by our research group, flight operations [aboard U. S. Navy aircraft carriers] at sea is the closest to the 'edge of the envelope'—operating under the most extreme conditions in the least stable environment...[9]

> It will come as no surprise to this audience that the Navy has certain traditional ways of doing things that transcend specifics of missions, ships, and technology. Much of what we have to report interprets that which is 'known' to naval carrier personnel, yet seldom articulated or analyzed. We have been struck by the degree to which a set of highly unusual formal and informal rules and relationships are taken for granted, implicitly and almost unconsciously incorporated into the organizational structure of the operational Navy.[10]

This intriguing article, illuminating throughout with regard to the teaming on JSOW, served TI in several ways: Navy program managers are routinely very experienced in operations, and "teaming" at a very high level was certainly not new to Naval aviators, albeit in operations and not necessarily in program management; another example of knowledge-based teaming with high degrees of teaming complexity (see the previous discussion of degree of abstraction, repetition, and team diversity) was resident *experientially* in the other possible teaming partner in JSOW, the government; and, now, the customer could be "understood" at an entirely new depth by the contractor, by thoughtful reference to an article on aircraft carrier flight operations at sea. Now, with a deeper background understanding of key government players in the JSOW contract made more complete, the *interorganizational* application of teaming, between government and contractor, looked more and more realistic.

Sufficient homework completed, the government, TI, and key suppliers moved into a teaming mode. Steps of faith were still indeed taken, but the factors revealed in the research process helped to mitigate the seeming risks taken.

Reflections Upon Creating and Implementing the Team

After the implementation of teaming, critical leadership elements worked to sustain teaming. Bluntly stated, hospitable conditions and research in and of themselves were not adequate to create and sustain teaming in the case of JSOW...any more than conditions and research in and of themselves would have been sufficient for the Wright brothers, or the Manhattan Project, or the space race. The appropriate conditions and research are critical, of course, but what about leadership dynamics, especially for the *interorganizational* teaming opportunity? Trust, among several factors, was key, both in the creation of teams and the implementation of teams.

Trust, often pursued yet tantalizingly elusive for many organizations, is perhaps the foundational ingredient upon which many other leadership characteristics necessary for teaming stand. And, if trust is often hard to be found *within* an organization, what about trust *between* two organizations? Especially, what about trust between two organizations—government and contractor, generically speaking—whose relationship by cultural definition and practice often seems to manifest itself adversarially?

A Navy flag officer stated it well: "*Trust* is knowing one well enough to expect them to discharge responsibilities well, while *faith* is hoping that one will do a

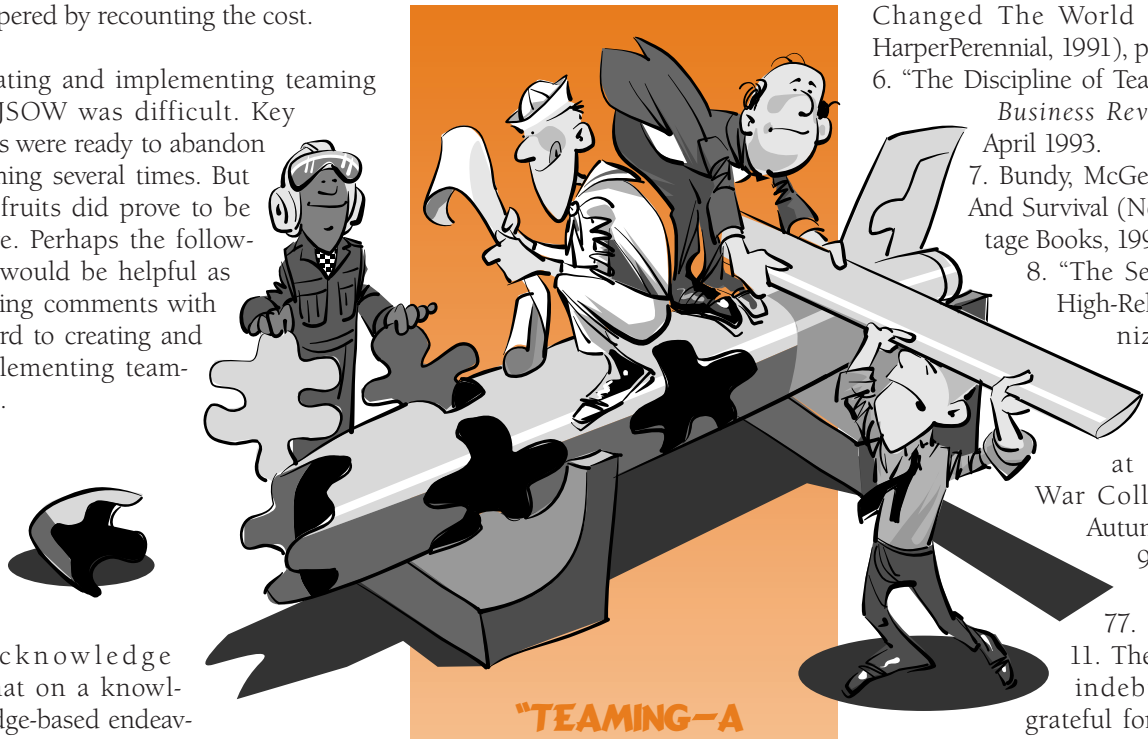
good job. We need more trust, but all the oversight in the world will not change *faith* to *trust.*"

In the case of JSOW, trust indeed worked to effect teaming well, along with other critical leadership factors such as courage, commitment to teaming, and steadfast advocacy of the interorganizational partner. But, in the final analysis, was "teaming" on JSOW worth it? You bet. TI management is out there waving the pompoms. Yet sober reflection and wise counsel would demand that the cheers are tempered by recounting the cost.

Creating and implementing teaming on JSOW was difficult. Key TIers were ready to abandon teaming several times. But the fruits did prove to be there. Perhaps the following would be helpful as parting comments with regard to creating and implementing teaming...

- Acknowledge that on a knowledge-based endeavor, teaming will be extremely difficult, and the initial benefits projected from a cost benefit analysis may not bear up over time.—
- Do your homework. But certainly don't expect research to reveal all answers customized to your need. Teaming, even the very creation of teaming processes, will be an experiential, evolutionary process of learning peculiar to your organization, not an academic process.
- Beware of the "teaming experts" trying to make teaming all things to all organizations...teaming has limited applicability with regard to many organizations in multitudes of circumstances. Leave the "cure-all elixir" mentality where it belongs... on a *Gunsmoke* rerun featuring a peddler passing through Dodge City.
- Enter and proceed with fear and trepidation, and with an expectation of sacrifice.
- But once committed, give the process of teaming the necessary effort...*go for it*!

Good luck. And remember Mrs. Frances Whitworth Smith commissioning her portrait from Jean-Paul Valjean.[11]



"TEAMING—A MATURATION PROCESS OF THE CONTRACTOR TRUSTING ITS GOVERNMENT COUNTERPARTS, AND THE GOVERNMENT PUTTING THEMSELVES INTO THE TEAM AS OPPOSED TO JUST SITTING BACK AND CRITIQUING THE CONTRACTORS."

ENDNOTES

1. "Acquisition Reform, Teaming Speed JSOW Development," *Aviation Week & Space Technology*, July 22, 1996, p. 59.
2. *Ibid*.
3. *Ibid*., p. 60.
4. Katzenbach, Jon R. and Douglas K. Smith, The Wisdom of Teams: Creating the High-Performance Organization (New York: HarperBusiness, 1994), p. 92.
5. Womack, James P., Daniel T. Jones, and Daniel Roos, The Machine That Changed The World (New York: HarperPerennial, 1991), pp. 104-111.
6. "The Discipline of Teams," *Harvard Business Review*, March-April 1993.
7. Bundy, McGeorge, Danger And Survival (New York, Vintage Books, 1990).
8. "The Self-Designing High-Reliability Organization: Aircraft Carrier Flight Operations at Sea," Naval War College Review, Autumn 1987.
9. *Ibid*., p. 76.
10. *Ibid*., p. 77.
11. The authors are indebted to and grateful for the participation of a number of key JSOW personnel, both from the government and within TI. These individuals were accessed either through interviews or through documents in the TI archives. Each was a vital part of the JSOW story. A list of such individuals must include retired Navy Capt. Bob Ramsay, Navy Rear Adm. (select) Jack Chenevey, Navy Cmdr. Tom Mariner, Navy Cmdr. Tom Wright, Air Force Lt. Col. Bill Goetz, Air Force Col. Riley Shelnutt, Dr. Lloyd Smith, Keith Sanders, Larry Lefbom, Ron Rosenthal, and Karen Higgins on the government side; and David Martin, Charles Marinello, James Cranfill, Jim Polozeck, Mike Chiodo, and Gene Robinson on the contractor side.